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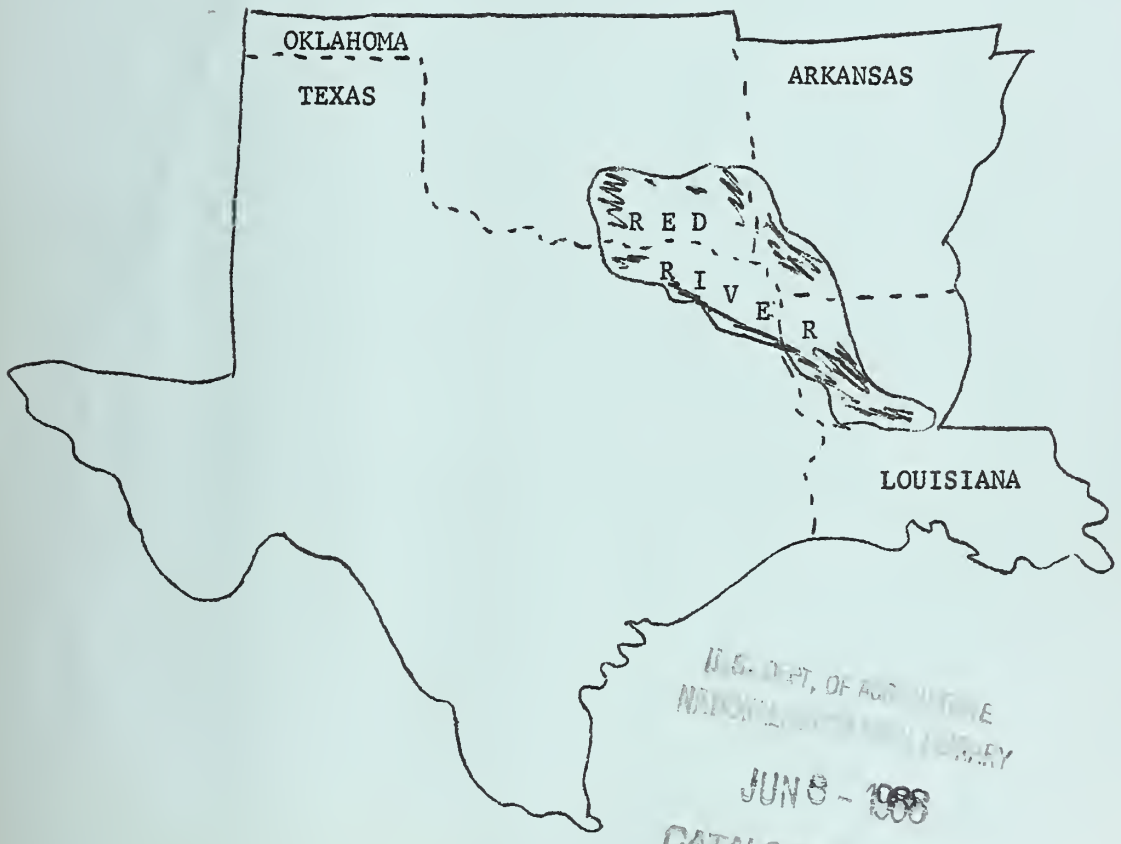

Red River Basin
Below Denison Dam

COMPREHENSIVE BASIN STUDY

RED RIVER
BELOW
DENISON DAM

USDA IMPLEMENTATION PLAN

By

U. S. DEPARTMENT OF AGRICULTURE

River Basin Office

Alexandria, Louisiana

May, 1971

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

895845

Post Office Box 1630, Alexandria, Louisiana 71301

CT: RB - USDA Implementation Plan Report -
Red River Basin Below Denison Dam -
Arkansas, Louisiana, Oklahoma, and Texas

DATE:

TO: Kenneth E. Grant, Administrator
Soil Conservation Service
Washington, D. C. 20250

Transmitted herewith is a USDA Plan Report for implementing early-action elements of the Type II Comprehensive Report - Red River Basin Below Denison Dam. This report constitutes a USDA request for legislation by Congress authorizing the Secretary of Agriculture to assist the states of Arkansas, Louisiana, Oklahoma, and Texas, and their political subdivisions to carry out a program for flood prevention and other purposes in 18 watershed areas.

The Type II Study Report, completed in June, 1968, by the Field Coordinating Committee, pointed out urgent needs for watershed development in the study area. In response to urgent needs, the Committee recommended 55 upstream watershed projects for early-action development. However, the Water Resources Council in its subsequent review of the report, recommended the number of projects be reduced, giving priority to urgent social and economic needs and the interdependence of major elements of the plan as established by the study.

In response to WRC recommendations, the USDA selected 18 watershed areas. Eight of the project areas were planned jointly by the Corps of Engineers and the Soil Conservation Service during the comprehensive study period; concurrent agency action is needed for adequate solutions. The average per capita annual income for the 18 watersheds is $783; this compares to $1,381 and $2,219 for the Red River study area and the United States, respectively. Additionally, in these watershed areas, there are urgent needs for flood prevention, drainage, recreation, irrigation, municipal and industrial water supply, and improved water quality. In addition to providing benefits for these purposes, installation of these projects could be expected to increase the net income of low income farmers from 10 to 35 percent or an average of about 20 percent.

The Type II study report stresses the desirability of timely implementation of early-action elements. The Water Resources Council, aware that special authorization would be necessary to accomplish this, recommended that the Type II report be used as a basis for federal agencies in developing authorization requests. Currently in the four state area, there is a backlog of 199 unserviced applications for assistance under Public Law 566.

These applications encompass an area of about 19.2 million acres. Present planning resources will not permit implementation of the 18 mentioned projects within the early-action period while fulfilling development demands outside the study area.

Letters of support for these projects are provided in the report for each state. These add impetus to the fact that these projects can be implemented if authorization were granted and resources were made available.

Therefore, in view of stated conditions, I recommend that new legislation be enacted to authorize the Secretary of Agriculture to assist state and local organizations in implementing water and related land resource projects in 18 watershed areas identified in the USDA Implementation Plan Report. I further recommend that before new legislation is introduced, responsible local interest be required to give assurances satisfactory to the Secretary of Agriculture that they will:

1. Provide without cost to the United States, all land rights necessary for construction, operation, and maintenance of structural measures.

2. Provide funds sufficient to pay for the local share of construction cost allocated to agricultural water management.

3. Operate and maintain all structural measures after completion in accordance with regulations prescribed by the Secretary of Agriculture.

J. B. Earle
State Conservationist

Enclosure

COMPREHENSIVE BASIN STUDY

RED RIVER
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USDA IMPLEMENTATION PLAN

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SUMMARY

GENERAL

Comprehensive planning of the Red River Basin below Denison Dam began in January, 1963. A report documenting the study was completed in June, 1968. Planning was directed by a Field Coordinating Committee composed of representatives of the U. S. Departments of Agriculture; Army; Commerce; Health, Education, and Welfare; Interior; the Federal Power Commission; and the four states involved - Arkansas, Louisiana, Oklahoma, and Texas. The New Orleans District of the Corps of Engineers acted as chair agency for the Committee.

Upon completion of the study, the Committee forwarded the Comprehensive Study Report to the Water Resources Council for review and comment. The Council, in consultation with the Committee, completed its review in February, 1970. At that time, the Council forwarded its report to the governors of the states involved. Comments received from the governors indicate that the Comprehensive Study Report should be used as a flexible guide to orderly resource development and as a basis for developing authorizing requests by various federal agencies.

The Field Coordinating Committee recommended an early-action plan containing 55 upstream watershed projects. The Water Resources Council in its review of the plan recommended, inter alia, a reduction in the size of the early-action program. Also, the Council recommended that the interdependence between major elements of the plan, as established by the study, serve as a basis for seeking timely implementation of interrelated elements.

Consistent with Council recommendations, the Department of Agriculture has identified 18 watershed projects that should be implemented during the early-action period. The prime considerations for selecting these watersheds are the urgent needs for improving the rural and urban, social, and economic resources of the areas, and the interrelationships of projects to Corps of Engineers project proposals.

It is improbable that these projects would be implemented in the early-action period without additional authorizing legislation. Presently in the four-state area, there are 199 applications awaiting assistance under the Public Law 566 watershed program. These applications include an area of about 19.2 million acres. Without additional authorization, it is unrealistic to assume that these projects can be implemented during the early-action period while fulfilling going program demands outside the study area.

The first estimate of cost for the proposed Department of Agriculture program is about $50.4 million of which about $27.7 million would be provided by federal funds and about $22.7 million would be provided by non-federal funds.

LAND TREATMENT

Land treatment is essential to the proper functioning of the structural measures and to the realizations of full benefits from structural improvements. Treatment practices include conservation cropping systems, diversion and terrace construction, waterways, land shaping, and drainage on croplands; pasture planting, pasture renovation,

and farm ponds on pasture; tree planting and interplanting, insect and fire control, and hydrologic stand improvement on forest; and recreational and wildlife planning and management on both upland and wetland areas. The implementation plan provides for treatment of about 528 thousand acres at a total cost of about $14.9 million; $1.9 million would be provided by federal funds and $13.0 million would be provided by non-federal funds.

STRUCTURAL MEASURES

Structural measures are for purposes of flood prevention, drainage, irrigation, recreation, municipal and industrial water supplies, and water quality. They include 130 floodwater retarding and multiple-purpose reservoirs, one water control structure, and 494 miles of flood prevention, drainage, and irrigation (12 miles) channels. Reservoir storage totaling 408,900 acre-feet, is divided approximately 304,600 acre-feet for flood detention, 41,400 acre-feet for sediment, 16,800 acre-feet for recreation, 35,000 acre-feet for municipal and industrial water supply, 6,000 acre-feet for water quality control, and 5,100 acre-feet for irrigation. All channels serve flood prevention and drainage purposes except 12 miles of channels which serve as irrigation water distribution canals.

The estimated installation costs of structural measures are $35,492,900. Costs are divided $23,971,000 for construction, $6,233,900 for installation services, $5,175,900 for land, easements and rights-of-way, and $112,100 for administration of contracts.

Installation costs are allocated $25,630,700 to flood prevention, $3,515,000 to drainage, $3,169,200 to recreation, $2,346,400 to municipal

and industrial water supply, $419,500 to irrigation, and $412,100 to water quality control.

The installation costs of $35,492,900 are apportioned $25,838,200 to federal funds and $9,654,700 to non-federal funds.

Average annual benefits are $4,454,200. Benefits accrue $2,466,500 to flood prevention, $956,930 to drainage, $432,900 to recreation, $139,600 to municipal and industrial water, $27,800 to irrigation, $26,200 to water quality, and $404,300 to secondary sources.

The annual equivalents of installation costs were amortized using an interest rate of 5 1/8 percent; channels were amortized for 50 years and structures for 100 years. The total annual costs consist of the amortized installation costs plus costs of operation and maintenance. The annual cost of structural measures in the implementation plan total $2,359,500 and the annual benefits total $4,454,200. This gives a benefit-cost ratio of 1.9 to 1.

INTRODUCTION

AUTHORITY

The Comprehensive Study for the Red River Basin below Denison Dam is one of the original 16 Type II river basin studies selected by the Interdepartmental Committee of the Ad Hoc Water Resources Council, subsequently established as the Water Resources Council (WRC) by Public Law 89-80. The United States Department of Agriculture participated in this study under the authority of Section 6 of the Watershed Protection and Flood Prevention Act, as amended (Public Law 566 - 83d Congress).

HISTORY OF INVESTIGATIONS

Investigation and survey reports in the study area date back to 1828. Reports have been prepared by the Corps of Engineers (USAE), the Department of Agriculture (USDA), the Bureau of Reclamation (BR), and the Texas Water Development Board (TWDB). In 1956, the Bureau of the Budget transmitted to Congress a report titled "Development of Water and Land Resources of the Arkansas-White-Red River Basins". This report was prepared by the Arkansas-White-Red River Basins Interagency Committee composed of the Federal Departments of Agriculture; Army; Commerce; Health, Education, and Welfare; Interior; and Labor; and the Federal Power Commission, with participation by representatives of the states of Arkansas, Colorado, Kansas, Louisiana, Missouri, New Mexico, Oklahoma, and Texas. With consent secured from the Congress of the United States, the states of Arkansas, Louisiana, Oklahoma, and Texas are presently negotiating a compact for the waters of the Red River and

its tributaries. The compact will become effective when signed by these four states and accepted by the U. S. Congress.

The Comprehensive Basin Study Report of Red River Basin below Denison Dam, completed in June, 1968, represents a joint effort by many agencies toward formulating a plan of development for the basin. Information regarding this study is given in this report under the Comprehensive Basin Study section.

PURPOSE AND ORGANIZATION OF REPORT

This report constitutes a request by the USDA for legislation by Congress authorizing the Secretary of Agriculture to assist the states of Arkansas, Louisiana, Oklahoma, and Texas, and their political subdivisions to carry out a program for flood prevention and other purposes in 18 watershed areas (Plate 1). This request supports the WRC recommendation that the Comprehensive Report Plan be used as a basis by various federal agencies for developing authorization requests for implementation of federal and federally assisted elements of the plan. All projects are urgently needed elements of the comprehensive early-action plan.

This report presents in abbreviated form, data from the Comprehensive Basin Study Report. It considers suggestions made by the Water Resources Council and recent legislative enactments. Also, it notes changes needed to keep project status current. Letters of support for each state are provided to add impetus to the fact that these projects can be implemented if authorization was granted and resources were made available.

The USDA Survey Report, prepared during the basin study period and updated to March, 1971, is attached as an appendix to this report as a ready reference for more detailed information regarding the USDA portion of the overall study. The updating consisted mainly of deleting a recommendations section that included 55 upstream watershed projects.

THE COMPREHENSIVE BASIN STUDY

BACKGROUND, OBJECTIVES, AND SCOPE

Comprehensive planning for the Red River Basin Study was directed by a Field Coordinating Committee (FCC). The Corps of Engineers acted as chair agency for the FCC which was composed of representatives of the U. S. Departments of Agriculture; Army; Commerce; Health, Education, and Welfare; Interior; the Federal Power Commission; and the four states involved - Arkansas, Louisiana, Oklahoma, and Texas. This report, completed in June, 1968, was forwarded to the Water Resources Council (WRC) for review. The WRC, in consultation with the FCC, completed its review in February, 1970. At that time, the WRC forwarded its proposed report to the governors of Arkansas, Louisiana, Oklahoma, and Texas for review and comment. Comments received from the governors indicate that the Comprehensive Study Report should be used as a flexible guide to orderly resource development and as a basis for developing authorizing requests by various federal agencies.

The objectives of the study were to identify physical and economic problems of the area related to water and related land resources, to define short and long-term needs for development of these resources, and to develop and recommend projects and programs, federal and non-federal, for their solution. In addition to describing a flexible plan to guide water and related land resource development for future periods, the studies defined and evaluated projects and programs in detail sufficient for authorization or implementation of federal projects having urgent and interrelated needs.

BASIN DESCRIPTION

Location and Size

The Red River Basin below Denison Dam is located in southeastern Oklahoma, northeastern Texas, southwestern Arkansas, and northwestern Louisiana, and comprises an area of about 29,500 square miles, exclusive of the Ouachita-Black Basin. It is bounded by basins of the Canadian River on the north, the Ouachita-Black Rivers on the east, the upper Red, Trinity, and Sabine Rivers on the west and south, and the Mississippi-Atchafalaya system on the southeast.

Physical Characteristics

The basin consists of a large alluvial valley flanked by rugged mountains in the northern part and gently rolling hills in the southern part. The Ouachita mountains in Arkansas and Oklahoma have elevations ranging from 2,800 feet above mean sea level on the summits of a few mountains to about 600 feet in the narrow, steep-sided valleys. Elevations of alluvial land along Red River range from about 40 feet near the mouth of Red River to about 500 feet near Denison Dam.

Improvements and Programs - Existing and Authorized

The USDA has several assistance programs administered through various agencies within the Department. All these programs contribute greatly to fulfilling particular needs. Also, they have far-reaching effects in improving and stabilizing the local and national economy.

Soil and water conservation districts embrace all the study area. Under the Soil Conservation Act of 1935 (Public Law 46), the USDA is

providing technical assistance to landowners in establishing sound conservation programs on farms.

As of December 31, 1962, 12 Public Law 566 watersheds had been completed or approved for operations. During the Red River Basin planning period January, 1963, to March, 1968, an additional 13 projects were approved for operations. These 25 watershed projects encompass about 2,900 square miles or about 10 percent of the basin area.

In 1962, the National Forest System administered about 500,000 acres of national forests and national grasslands in the basin. During 1965-66, an additional 11,000 (15,000) acres were acquired for recreational development. The 55 mile Talimena Scenic Drive is complete; the accompanying recreation complex is under construction. As a part of the recreation complex, the Kerr Memorial Arboretum and Nature Center has been authorized and planning (planning complete) is underway. (complete.) This memorial, a multi-million dollar project, will encompass about 3,000 acres although only 350 acres will be intensively developed. By 1962, five recreational reservoirs with a surface area of 1,578 acres had been built on national forest system lands.

Authorized Corps of Engineers projects for flood protection along Red River include 20 reservoirs, over 400 miles of levees along the main stem, and bank protection works primarily at locations where levee set-back construction is impracticable. In addition, local protection projects and many miles (How many?) of levees and channel improvement have been constructed throughout the basin. Work for continuing navigational improvement of Red River below Fulton, Arkansas, was originally authorized in 1828. The project has been modified several times in

subsequent years and recently by the River and Harbor Act of 1968. The Act of 1968 authorized, among other things, a plan for navigation on Red River from the Mississippi River to Shreveport, Louisiana, a plan for navigation on Twelvemile and Cypress Bayous from Shreveport, Louisiana, to Daingerfield, Texas, and a comprehensive plan for bank stabilization on Red River from the Mississippi River to Denison Dam.

PROBLEMS AND NEEDS

Problems and needs in the basin relate to land resource management, floodwater, inadequate drainage, erosion, sediment, water supply, water quality, irrigation, recreation, fish and wildlife, regional development, environmental aspects, health aspects, streambank stabilization, hydroelectric power, and navigation. (For brevity, streambank stabilization, hydroelectric power, and navigation are not discussed in this section.)

About 16.5 million acres have either erosion, soil limitation, or excess water problems. This is about 95 percent of the land used to produce food and fiber. About 4.4 million acres are wet and improvements for agricultural drainage are feasible on about 1.3 million acres.

Forest land resource problems stem from poor soil and cover conditions and low timber productivity. Land treatment is needed on about 45 percent of the commercial forest acreage for improved watershed protection, and high-level sustained-yield management is needed on about 55 percent to meet future needs in wood production.

About 2.5 million acres in the basin are subject to flooding from Red River and major tributaries. An additional 600,000 acres in upstream

watershed areas are subject to flooding. The estimated average annual damages total $11.6 million. Of the total damages, about $1.0 million occurs in upstream watershed areas.

Water supply shortages are prevalent. Rural water use, exclusive of irrigation, is expected to increase 36 million gallons per day by 1980. Some areas which have insufficient surface water and ground water cannot meet municipal and industrial water demands of the immediate future. Based on total basin requirements, additional reservoirs and facilities will be needed to provide a dependable yield of 200 million gallons per day by 1980.

Economic base studies have indicated that increased production of agricultural commodities in this basin is not needed to meet national needs in the next 10-15 years. However, irrigational development for rice, cotton, and vegetables is needed to make effective use of other production factors already committed. This increased economic activity will contribute to regional development. Incremental costs of providing irrigational water storage are minimal once flood prevention storage is justified. About 765,600 acres have a potential for irrigational development. About 42,000 acres are presently irrigated. Water requirements for irrigation are expected to increase about 333,000 acre-feet by 1980.

Highly advanced waste treatment or disposal measures, provisions for supplemental flow, or a combination of these measures will be needed on at least 13 streams by 1980. Assuming that cities over the basin remove an average of 90 percent of biochemical oxygen demand from organic wastes and that industries employ an equivalent treatment

for their wastes, streamflow deficiencies for adequate assimilation of the remaining wastes will be about 237 million gallons per day by 1980.

Although outstanding recreational opportunities are available, development of recreational resources have not kept pace with expanding demand. By 1980, the demand for recreational opportunities in excess of those that will be met by existing facilities is expected to be 37.3 million recreation days.

In the last national census, the average per capita annual income was $1,380 or 40 percent below the national average. As of February, 1968, half of the counties in the basin were classified by the Economic Development Administration as being eligible for full financial assistance under the Public Works and Economic Development Act of 1965.

The natural environment is influenced by water and related land resource development measures because they alter, to some degree, the natural aspect of the areas in which they are constructed. Physical features may be valuable because of what they are, or their value may stem from the fauna and flora they support. The basin possesses numerous sites which should be preserved; many are identified in the comprehensive basin report. These offer not only striking natural beauty and essential wildlife habitat to endangered species, but also historical, cultural, and scientific significance. The type of habitat needed for three endangered wildlife species - the American Alligator, the Southern Bald Eagle, and the Red Wolf - is already in short supply and is undergoing progressive reduction. Environmental preservation must be carefully considered in all aspects of basin planning.

Public health is a basic concept of comprehensive basin planning. Health aspects involve water use and quality, sanitary facilities at recreational areas, injury control, air pollution, solid waste control, and vector control.

Vector problems must be considered to prevent conditions suitable for transmission of vector-borne diseases and to safeguard the comfort and health of the public. In this basin, mosquitoes and flies are potential vectors for malaria and encephalitis, and ticks are potential vectors for Rocky Mountain spotted fever and tularema. Other vectors that may create serious nuisance problems in recreational areas are deer flies, gnats, wasps, chiggers, and rodents. Water supply systems and recreational facilities will require programs for surveillance and monitoring to safeguard the health, comfort, and well-being of the public.

FCC PLAN OF DEVELOPMENT

Comprehensive Plan

The comprehensive report presents a plan for the orderly development of water and related land resources to satisfy short and long-range needs and goals of the basin. It is intended to serve as a flexible guide for future actions in planning and implementing measures to insure full utilization of the water and related land resources potential of the basin. Projects in the early-action plan are directed toward providing optimum development to satisfy immediate needs. The long-range plan provides a flexible framework for future development and should be kept viable by the concerned federal, state, and local agencies.

Implementation of the plan would assure adequate quantities of high quality water to meet M&I needs through 2080, protect valuable urban and agricultural areas from damaging floods, promote maximum utilization of the agricultural potential, stimulate trade by providing low-cost barge transportation, provide recreational opportunities, make a major contribution toward satisfying demands for electric power, preserve areas of natural beauty or unique environmental conditions, and promote economic development.

The FCC made 25 recommendations pertinent to development of the basin. Recommendations included are that each concerned federal and state agency keep current the segments of the comprehensive plan which it is, or may be, under law, assigned responsibility, that the report of the FCC be used as a supporting document for authorization requests initiated by the construction agencies, and that approval of the comprehensive plan not be a bar to development of projects not included therein.

Early-Action Plan

The FCC recommends that early-action projects and programs be implemented as soon as practicable, and in any event, within the next 10 to 15 years. The early-action plan includes 12 major reservoir projects, 4 local flood protection projects, 3 navigation projects, and 55 upstream watershed projects. Also, it includes stream preservation for 632 miles of watercourses, development of 110 stream access sites, acquisition of 80,500 acres of land for fish and wildlife development, joint acquisition of 9,880 acres of land to mitigate project-induced wildlife damages, preservation of 5 areas of unique fish and wildlife habitat, development of 59 access sites on existing lakes and reservoirs in Louisiana, construction of 3 low water weirs on Bayou Pierre in Louisiana, and preservation of 13 areas of unique natural beauty or historical, archaeological, and scientific interest.

the Early Action plan for forestry includes etc Insert

Public Hearings

The comprehensive plan of development was presented in public hearings at Shreveport, Louisiana, Texarkana, Texas, and Texoma State Park, Oklahoma on February 6, 7, and 8, 1968, respectively. The plan recommended by the FCC received wide public support from those in attendance. Objections to some features of the overall plan were made by representatives of several conservationist organizations because of proposed alterations of natural areas and conflicts between development for early-action and long-range needs. The effects of the projects on environmental quality is covered in the Environmental Statement prepared in accordance with Section 102(2)(C) of PL-91-190.

WATER RESOURCE COUNCIL COMMENTS

Findings

The WRC, in consultation with the FCC, reviewed and analyzed the comprehensive report plan. Based on this review and analysis, the WRC published findings which should be appropriately considered in further federal agency program actions or in authorization documents. Findings are given under nine categorical headings. They are: (1) early-action plan, (2) economic base, (3) recreation, (4) water supply, (5) major reservoir projects, (6) upstream watersheds, (7) remaining program, (8) undeveloped resources, and (9) changing criteria and other factors. Findings relevant to this report are summarized in the following paragraph.

The early-action program appears too large to be initiated in the early-action period. Not all of the upstream watershed program is required to meet needs of the next 10 to 15 years. In determining projects which should be placed in the highest priority for timely implementation, consideration should be given to the interdependence between major elements of the plan as established by the study and to urgent needs for improvement of the social and economic resources. Preparation of agency authorizing documents should consider changing cirteria and other factors such as recently enacted legislation regarding the environment and the recent increase in interest rate.

Recommendations

Based on its findings, the WRC made eight recommendations. They are summarized as follows: (1) the FCC report be accepted as a general

guide for consideration of federal programs and as a basis for developing authorizing requests by the various federal agencies; (2) the interdependence between major elements of the plan serve as a basis for seeking timely implementation of interrelated elements; (3) the states of Arkansas, Louisiana, Texas, and Oklahoma be encouraged to accept the comprehensive plan as a basis for further detailed planning for non-federal developments, and to enact legislation required to permit implementation of the non-federal portions of the comprehensive plan; (4) the Department of the Army and the Department of Agriculture re-evaluate the proposals for the Durant Reservoir and the Lower Blue River Watershed project; (5) where recreation is a purpose, each of the reports for authorization of elements of this plan by the Federal Government include a recreation plan analysis by the reporting agency; (6) where water supply is a purpose, each of the reports for authorization of elements of this plan by the Federal Government include an analysis of water supply requirements; (7) in the development of specific plans where stream channelization is to be undertaken, the Departments of Agriculture, Army, and Interior, in consultation with appropriate state agencies, work together to provide compatibility between the preservation of fish and wildlife resources and agricultural or other interest; and (8) in future planning in the basin, features of the comprehensive plan be reviewed and updated to the extent appropriate in connection with the specific planning effort and the comprehensive plan be reviewed and updated after a reasonable period.

USDA RESPONSE TO WATER RESOURCE COUNCIL COMMENTS

Selection of Projects

In consideration of WRC findings and recommendations, the USDA has limited to 18 the number of watershed projects included in the authorization report. The prime considerations for selecting the watersheds are the urgent needs for improving the rural and urban, social, and economic resources of the areas, and the interrelationships of projects to Corps of Engineers project proposals.

Average per capita annual income for the 18 watersheds is $783; this compares to $1,381 and $2,219 for the Red River study area and the United States, respectively. Annual benefits from installation of the projects are $2,466,500 for flood prevention, $956,900 for drainage, $432,900 for recreation, $139,600 for municipal and industrial water supply, $27,800 for irrigation, $26,200 for water quality, and $404,300 from secondary sources; a total of $4,454,200. Based on data from installed watershed projects, installation of these projects could be expected to increase the net income of low income farmers from 10 to 35 percent, or an average of about 20 percent.

Eight watershed projects are interdependent with proposed Corps projects. They are watershed projects Nos. 3-52, 3-53, 3-54, 3-57, 3h2-4, 3h2-6, 3-25, and 3-25a. Since problems in these watersheds interrelate with problems in proposed Corps project areas, concurrent agency action is needed for adequate solutions.

All 18 projects have been reevaluated using the current interest rate of 5 1/8 percent.

5 3/8

Recreation Plan Analyses

In compliance with WRC recommendation (5), the USDA made a recreation plan analyses. The estimated annual demand in the basin for recreational opportunities in excess of those that will be met by existing facilities will be 37.3 million recreation days in 1980. The projects included in the FCC early-action plan can meet about 48 percent of this demand. With the existing areas, the proposed new facilities and the enlargements included in the early-action plan would have the potential to offer about 18 million recreation days, based on a 5-day work week and current visitation patterns. Essentially, this would be sufficient to meet the 1980 needs considering about 50 percent of the needs will be supplied by development from other sources.

Recreation is included as a purpose in watershed projects 3-25a, 3-35, 3h2-6, 3-52, 3k-11, 3-57, 3m1-7, 3n-2, and 3-70. The contribution of the nine potential watershed projects toward meeting basin recreational needs in 1980 is given in Table 1. These projects have a total of about 3,800 acres for recreational purposes. Facilities at these sites will be needed to meet 1980 demands and will not be duplicated by the authorization and installation of other agencies' proposals for early-action development. As can be seen in Table 1, there will be some additions to water available for boating which adds to a surplus, yet local needs exist. Basin wide, boating needs will begin to appear after 1980. In all, the nine potential recreational developments will provide a small but significant contribution toward meeting recreational needs in the basin.

TABLE 1 - Contribution, by States, of the Early-Action Watershed Projects Recommended for Authorization toward Meeting 1980 Recreational Needs of the Basin, Red River Basin Study Area

Activity	Unit	1980 Needs[1]	Amount Supplied[2]	Percent Contributed
		ARKANSAS		
Boating	Acres	11,700	255	2
Swimming	Acres	13	1	8
Camping	Units	830	76	9
Picnicking	Tables	790	65	8
		LOUISIANA		
Boating	Acres	+	1,215	
Swimming	Acres	80	5	6
Camping	Units	8,800	364	4
Picnicking	Tables	6,860	307	4
		OKLAHOMA		
Boating	Acres	+	175	
Swimming	Acres	+	1	
Camping	Units	740	53	7
Picnicking	Tables	460	46	10
		TEXAS		
Boating	Acres	+	170	
Swimming	Acres	80	1	1
Camping	Units	4,380	50	1
Picnicking	Tables	3,960	43	1

[1] From Chart 10, Appendix XII, Volume 6, Red River Basin below Denison Dam Comprehensive Report.
[2] Ibid., Chart 12

The projects are well distributed geographically in the four-state area (see Plate 1). Recreation provided by small reservoir development fulfills a rather selective need and with the possible exception of camping, people will not drive more than about an hour to use these facilities. Small reservoirs provide a quality recreation not provided by large reservoirs. Many people prefer the not-so-large areas of small reservoirs for their camping, boating, swimming, picnicking, and fishing. The recreation offered in the nine projects does not conflict with other land development uses.

The available alternatives for recreation studied in the basin plan were:

(1) Expansion of existing areas versus development of new areas.

(2) Development of existing resources (lakes, streams, and related lands) versus construction of new resources.

(3) Preservation of ecological, historical, vegetative areas versus utilization of these areas by other uses.

(4) Distribution of the recreation resources within the populated areas versus the recreationist commuting to the resources.

(5) Tangible benefits versus intangible benefits in justifying recreation as a project purpose.

(6) Early-action programs versus long-range programs to meet future needs.

In addition, allowances in demand calculations were made for the Sabine River Basin to satisfy some of the recreational demands for this basin. This basin possesses a variety of resources providing many alternatives for recreational development and use.

Water Supply Requirement Analyses

In response to WRC recommendation (6), the USDA made the following water requirement analysis. Increases in water requirements to 1980 for municipal and industrial uses as estimated by the FCC report almost triple the quantities used in 1965. An abundant supply of water to meet these projected requirements is generally available from developed ground water and from existing and authorized projects. However, in some cases, resources are not near the areas of need.

Water supply storage requirements of the municipalities which were to receive water from upstream watershed developments are consistent with the 1980 needs of the subject areas. They are shown in the following tabulation:

Town	Watershed and CNI	Storage (acre-feet)
Magnolia, Arkansas	Big, Creek, 3m1-7	20,300
Deport, Texas[1/]	Deport Area, 3k-11	354
Bonham, Texas	Upper Bois D'Arc Creek, 3-25a	10,400
Allen, Oklahoma	Upper Muddy Boggy Creek, 3h2-6	2,000
Atoka, Oklahoma	Lower Muddy Boggy Creek, 3h2-4	2,000

[1/] Deport, Texas, is now receiving water from the USAE Pat Mayse Reservoir

These needs are projections of industrial and municipal consumption and are based on data prepared for the Red River Basin Comprehensive Plan by the Federal Water Pollution Control Administration (now the Environmental Protection Agency), the Soil Conservation Service, and private local agencies.

Ground water is available in nearly all these areas in yields ranging from 50 to 1,500 gallons-per-minute and at depths ranging from 100 to 500 feet. However, in comparing the costs of obtaining water from ground water supplies versus surface reservoirs, it was found that ground water generally costs at least 40 percent more.

Water needs for Magnolia, Arkansas can be best satisfied by reservoir storage in the upstream watershed project on Big Creek. This storage is ideally located on Big Creek and will satisfy 1980 water needs of Magnolia. Dorcheat Reservoir, a Corps early-action proposal, will furnish future water supplies for Columbia County, Arkansas, and Webster Parish, Louisiana. This reservoir will provide storage that could be used to satisfy additional needs of Magnolia. Deport, Texas, is now receiving an adequate water supply from the USAE Pat Mayse Reservoir. This was obtained through the Lamar County Water Supply Corporation. However, M&I water was not dropped from the project plan because, possibly, a water supply will still be developed. Adequate alternative surface water resources are not available for the other municipalities.

USDA EARLY-ACTION PLAN IMPLEMENTATION

THROUGH PUBLIC LAW 566

Project Elements

Project development under existing authority is expected to continue, but will contribute only about one-third of the projects and measures needed for early action. The proposed special authorization would supplement the implementation expected under existing authority.

Constraints of Existing Authority

The Comprehensive Basin Study has pointed out an immediate need for upstream watershed development as elements of the early-action plan. (The FCC plan recommends 55 upstream watershed projects.) Also, the Study has defined urgent needs and problems that can be solved only by timely implementation of project proposals. Implementation under existing authority can provide some, but not all, projects needed for early-action development.

Under existing procedures, local sponsors must make application for planning assistance to the appropriate state agency. Each state agency has received more applications than can be acted upon in a timely manner with current planning resources. Currently in the four-state area, there is a backlog of 199 unserviced applications covering an area of about 19.2 million acres. Considering that development outside the study area would continue at the going rate, it becomes obvious that additional authorization will be required for implementation of plan projects within the early-action period. Special authorization would

support recommendations made by the WRC and help insure the timely implementation of projects.

THROUGH SPECIAL AUTHORIZATION

Concurrent Authorization Needs

Resource development leaders have recognized the needs for and benefits from comprehensive river basin planning. Also, they have recognized the need for timely implementation of interrelated project plan elements. The WRC recognized this need in their recommendations.

Although some of these projects could be installed by going programs during the early-action period, it would be unrealistic to assume that all could be installed by going programs during the early-action period while continuing the present level of development outside the study area. It should be noted that eight project proposals are interrelated with Corps project proposals and that the most urgent problems and needs within the basin lie within the project areas of these 18 watersheds. Concurrent authorization of USDA proposals would permit timely implementation of these projects while continuing the present level of development outside the study area, and it would insure timely completion of projects that are interrelated with Corps' projects.

Summary of Project Proposals

Land Treatment

Land treatment is essential to the proper functioning of the structural measures and to the realization of full benefits from structural improvements included in the watershed projects recommended

for authorization. Table 2 summarizes accelerated land treatment needs by land use in these watersheds.

Table 2. - Land Treatment Needs in Early-Action Multiple-Purpose Watershed Projects Recommended for Authorization, Red River Basin Study Area

Watershed Projects	Area to be Treated					Tech. Assistance Cost		Installation Cost	Total
	Cropland	Pasture	Forest	Wildlife & Recreation	Total	Going Program	Accelerated Program		
	thousand acres					thousand dollars			
3-25 Lower Bois d'Arc Creek	10.7	30.2	8.4	0	49.3	128.9	230.9	1,457.6	1,817.4
3-25a Upper Bois d'Arc Cr.	13.2	26.9	6.3	0	46.4	137.7	224.6	1,368.9	1,731.2
3-35 Mill Iron-Buzzard	4.3	3.9	0	0	8.2	22.2	15.5	2,381.1	2,418.8
3-40 Norwood Creek	0.5	6.9	11.3	0.3	19.0	10.3	8.3	396.5	415.1
3R2-4 Middle Muddy Boggy	4.9	46.1	0	0.5	51.5	91.0	63.7	984.2	1,138.9
3R2-5 Upper Muddy Boggy	8.9	60.2	0	0.8	69.9	129.0	40.0	2,180.0	2,349.0
3-47 Ash Slough	0.2	0.3	0.5	0	1.0	2.6	3.3	16.3	22.2
3-48 Barkman Creek	1.2	8.4	2.5	0	12.1	42.6	55.1	368.8	466.5
3-52 Upper McKinney Bayou	8.6	15.4	3.2	0.2	27.4	26.5	45.4	334.6	436.5
3-53 Buzzard Bluff	10.7	13.9	0.5	0.1	25.2	8.8	12.4	112.0	133.2
3-54 McKinney Bayou	8.7	6.1	0.5	0.1	15.4	4.6	11.6	80.8	97.0
3R-11 Depot Creek	0.5	1.0	0	0	1.5	3.7	6.4	50.6	60.7
3-57 Poston Bayou	12.6	5.0	0.9	0.1	18.6	8.7	5.4	132.7	146.8
3R1-7 Big Creek	0.8	1.3	7.3	0.1	9.5	10.4	19.2	282.5	312.1
3R-2 Johnson Chute	2.6	3.4	29.0	0	35.0	39.8	64.7	698.7	803.2
3-69 Bayou DeGrappe	2.1	2.6	13.5	0	18.2	11.1	18.5	202.8	232.4
3-70 Bayou Bigolette	5.1	2.6	83.3	0	91.0	120.9	63.8	1,380.0	1,564.7
3-75 Jonesville to Larto Lake	19.5	4.5	4.5	0	28.5	26.5	105.3	646.9	778.7
Total	115.1	258.7	171.7 1/	2.2	527.7	835.8	994.1	13,075.0	14,904.4

1/ Includes 50,900 acres of National forest lands and 70,000 to 75,000 acres of forest industry land under high level management.

Treatment practices will include conservation cropping systems, diversion and terrace construction, waterways, land shaping, and drainage on croplands; pasture planting and interplanting, insect and fire control, and hydrologic stand improvement on forest; and recreational and wildlife planning and management on both upland and wetland areas. Individual farm owners will install the treatment practices on farm lands in cooperation with the respective soil and water conservation district in which the individual watershed is located. The installation cost will

be a local interest responsibility; however, some cost sharing is available through the Rural Environmental Assistance Program (REAP).

Forest management practices on private land will be applied under the supervision of the state forestry agencies in cooperation with the U. S. Forest Service. Installation costs will be shared by federal, state, and local interest. In watersheds 3-52, 3-53, 3-54, 3-40, 3-41, and 3m1-7, specific funds are included for increased fire protection to forest and woodland. The U. S. Forest Service will install the land treatment measures planned on National Forest System Lands.

Table 2 summarizes technical assistance and installation costs. The cost of treatment on National Forest System Lands is included in the totals.

Structural Measures

Approximately 2,470 square miles are included in the 18 watersheds recommended for authorization. Structural measures are for purposes of flood prevention, drainage, irrigation, recreation, municipal and industrial water supplies, and water quality. They include 130 flood water retarding and multiple-purpose reservoirs, one water control structure, and 494 miles of flood prevention, drainage, and irrigation channels. Structural data are summarized in Table 3.

Table 3 - Pertinent Structural Data -Early Action Multiple-Purpose Watershed Projects Recommended for Authorization, Red River Basin Study Area

Watershed Projects	Watershed Area (sq.mi.)	Drainage Area Controlled (sq.mi.)	Structural Measures: Reservoirs number	Channels miles	Permanent Pool Capacity: Flood Detention acre-feet	Sediment acre-feet	Recreation acre-feet	Municipal and Industrial acre-feet	Other 1/ acre-feet	Surface Area at Permanent Pool 2/ acres
3-25 Lower Bois d'Arc Creek	208.4	98.0	14	22.2	32,610	8,910	0	0	0	1,585
3-25a Upper Bois d'Arc Creek	222.6	79.0	8	8.1	32,910	5,820	1,580	10,400	0	1,472
3-35 McKinney-Buzzard	26.0	12.0	1	8.5	4,925	576	394	0	0	65
3-40 Norwood Creek	83.4	28.0	3	21.2	8,624	1,350	0	0	0	184
3h2-4 Middle Muddy Boggy Creek	225.4	155.0	25	0	49,250	8,250	0	2,000	0	1,455
3h2-6 Upper Muddy Boggy Creek	322.2	158.0	44	0	50,900	8,400	1,000	2,000	0	1,850
3-47 Ash Slough	4.0	-	-	4.1	-	-	-	-	-	-
3-48 Barkman Creek	69.0	-	-	23.9 2	-	-	-	-	-	-
3-53 Upper McKinney Bayou	195.8	31.0	4	76.0	14,870	800	1,410	0	0	408
3-54 Buzzard Bluff	86.3	-	-	71.0 3	-	-	-	-	-	-
3-54 McKinney Bayou	45.1	-	-	33.0 4	-	-	-	-	-	-
3h-11 Tupert Creek	6.0	5.0	1	0	3,005	540	324	354	0	240
3-57 Boston Bayou	95.8	0	1	39.2	0	130	500	0	0	120
3n1-7 Big Creek	140.2	54.4	9	21.8	25,010	1,090	820	20,300	6,000W	2,813
3n-2 Johnson Chute	144.1	63.9	9	12.0	27,460	2,080	7,340	0	5,100I	2,659
3-69 Bayou DuCrappe	31.5	-	-	18.0 5	-	-	-	-	-	-
3-70 Bayou Rigolette	386.2	116.8	11	63.0	54,940	3,440	3,200	0	0	985
3-75 Jonesville to Larto Lake	173.5	-	-	70.0 6	-	-	-	-	-	-
Total	2,468.5	799.1	130	490	304,564	41,386	19,763	35,054	11,100	14,862

1/ Abbreviations for other pool capacities: I - Irrigation; W - Water Quality Control;

2/ Surface area at principal spillway elevation

The estimated installation cost of structural measures is $35,492,900. Of this amount, $23,971,000 would be for construction, $6,233,900 for installation services, $5,175,900 for land, easements, and rights-of-way, and $112,100 for administration of contracts. Installation cost of recreation basic facilities is included in project costs where water storage is allocated to recreational uses. The estimated structural installation costs are summarized for individual watershed projects in Table 4.

Table 4 - Structural Installation Costs 1/ - Early Action Multiple Purpose Watershed Projects Recommended for Authorization, Red River Basin Study Area

Watershed Projects	Construction	Installation Services	Land, Easements & Rights-of-way	Administration of Contracts	Total
	thousand dollars				
3-25 Lower Bois d'Arc Creek	3,470.5	695.3	761.3	17.3	4,944.4
3-25a Upper Bois d'Arc Creek	1,652.6	321.3	654.9	8.2	2,637.0
3-35 McKinney-Buzzard	473.9	129.2	77.0	2.2	682.3
3-40 Norwood Creek	496.7	116.4	64.2	1.9	609.2
3R2-4 Middle Muddy Boggy Creek	2,171.0	507.0	203.0	7.5	2,888.5
3R2-6 Upper Muddy Boggy Creek	2,499.6	607.2	425.5	14.8	3,547.1
3-47 Ash Slough	34.1	9.2	19.4	0.2	62.9
3-48 Barkman Creek	224.5	60.6	118.1	1.0	404.2
3-52 Upper McKinney Bayou	1,130.5	305.2	316.5	5.1	1,757.3
3-53 Buzzard Bluff	626.1	169.0	201.4	2.9	999.4
3-54 McKinney Bayou	182.3	49.2	107.4	0.8	339.7
3R-11 Deport Creek	192.1	31.6	73.5	0.9	298.1
3-57 Tosten Bayou	904.3	242.8	187.2	3.9	1,338.2
3m1-7 Big Creek	3,074.6	830.0	690.1	14.0	4,608.7
3m-2 Johnson Chute	1,828.2	640.7	411.3	8.3	2,886.5
3-69 Bayou DuCrappe	116.8	36.2	59.2	0.6	212.8
3-70 Bayou Rigolette	4,617.8	1,376.2	744.7	20.9	6,759.6
3-75 Jonesville to Larto Lake	345.4	106.8	61.2	1.6	515.0
Total	23,971.0	6,233.9	5,175.9	112.1	35,492.9

1/ 1966 Price Base

The installation costs for structural measures are allocated to project purposes as follows:

1. For single-purpose structural measures, the installation costs are allocated entirely to the purpose for which they were designed.
2. In multiple-purpose reservoirs, the installation costs are allocated to the various purposes by the Use of Facilities Method. Specific costs are allocated to the purposes to be served.

3. For multiple-purpose channels for flood prevention and drainage, all project installation costs are allocated equally to flood prevention and drainage.

Installation costs for structural measures are allocated $25,630,700 to flood prevention, $3,515,000 to drainage, $419,500 to irrigation, $2,346,400 to municipal and industrial water supply, $412,100 to water quality control, and $3,169,200 to recreation. A summary of cost allocation to project purposes, totaling $35,492,900 for individual watershed projects is shown in Table 5.

Table 5 -Structural Installation Cost Allocation Summary - Early-Action Multiple Purpose Watershed Projects Recommended for Authorization, Red River Basin Study Area

Watershed Projects	Project Purpose						Total
	Flood Prevention	Agri. Water Management: Drainage	Irriga-tion	Non-Agri. Water Management: Municipal & Industrial Water Supply	Water Quality Control	Recreation	
	thousand dollars						
3-25 Lower Bois d'Arc Creek	4,944.4	-	-	-	-	-	4,944.4
3-25a Upper Bois d'Arc Creek	2,024.3	-	-	287.4	-	325.3	2,637.0
3-35 McKinney-Buzzard	386.8	34.8	-	-	-	260.7	682.3
3-40 Norwood Creek	494.1	115.1	-	-	-	-	609.2
3M2-4 Middle Muddy Boggy Creek	2,727.1	-	-	161.4	-	-	2,888.5
3M2-6 Upper Muddy Boggy Creek	2,964.5	-	-	179.2	-	403.4	3,547.1
3-47 Ash Slough	32.7	30.2	-	-	-	-	62.9
3-48 Barkman Creek	210.6	193.6	-	-	-	-	404.2
3-52 Upper McKinney Bayou	1,044.8	447.6	-	-	-	264.9	1,757.3
3-53 Buzzard Bluff	499.7	499.7	-	-	-	-	999.4
3-54 McKinney Bayou	169.9	169.9	-	-	-	-	339.7
3M-11 Deport Creek	111.8	-	-	10.7	-	175.6	298.1
3-57 Poston bayou	461.6	461.6	-	-	-	415.0	1,338.2
3M1-7 Big Creek	2,157.5	-	-	1,707.7	412.1	331.4	4,608.7
3M-2 Johnson Chute	1,855.2	-	419.5	-	-	613.8	2,888.5
3-69 Bayou DuGrappe	106.4	106.4	-	-	-	-	212.8
3-70 Bayou Rigolette	5,161.8	1,198.7	-	-	-	379.1	6,739.6
3-75 Jonesville to Larto Lake	257.5	257.5	-	-	-	-	515.0
Total	25,630.7	3,515.0	419.5	2,346.4	412.1	3,169.2	35,492.9

Based on PL-566 criteria, the installation costs of $35,492,900 are apportioned $25,838,200 to federal funds and $9,654,700 to non-federal funds. A summary of cost sharing for multiple-purpose individual watershed projects is shown in Table 6.

Table 6 - Installation Cost Sharing Summary For Structural Measures-Early-Action Multiple Purpose Watershed Projects Recommended for Authorization, Red River Basin Study Area

Watershed Projects	Federal Funds	Non-Federal Funds	Total
	thousand dollars		
3-25 Lower Bois d'Arc Creek	4,165.8	778.6	4,944.4
3-25a Upper Bois d'Arc Creek	1,723.6	913.4	2,637.0
3-35 McKinney-Buzzard	513.5	168.8	682.3
3-40 Norwood Creek	502.8	106.4	609.2
3h2-4 Middle Muddy Boggy Creek	2,536.3	352.2	2,888.5
3h2-6 Upper Muddy Boggy Creek	2,793.5	753.6	3,547.1
3-47 Ash Slough	35.1	27.8	62.9
3-48 Barkman Creek	231.3	172.9	404.2
3-52 Upper McKinney Bayou	1,206.7	550.6	1,757.3
3-53 Buzzard Bluff.	638.6	360.8	999.4
3-54 McKinney Bayou	185.9	153.8	339.7
3k-11 Deport Creek	166.7	131.4	298.1
3-57 Posten Bayou	836.7	501.5	1,338.2
3m1-7 Big Creek	2,090.5	2,518.2	4,608.7
3n-2 Johnson Chute	2,214.2	674.3	2,888.5
3-69 Bayou DuGrappe	123.8	89.0	212.8
3-70 Bayou Rigolette	5,507.4	1,252.2	6,759.6
3-75 Jonesville to Larto Lake	365.8	149.2	515.0
Total	25,838.2	9,654.7	35,492.9

Average annual benefits from multiple-purpose upstream watershed projects are estimated at $4,454,200. Benefits of $2,466,500 accruing to flood prevention, $984,700 to agricultural water management including irrigation and drainage, $598,700 to non-agricultural water management consisting of municipal and industrial water supply, recreation storage, and water quality storage, and $404,300 in benefits from secondary sources are summarized by individual watershed projects in Table 7.

Annual municipal and industrial water supply benefits total $139,600 annual recreational benefits total $432,900 annual water quality benefits are $26,200, and annual irrigational benefits are $27,800.

Table 7 - Summary of Annual Benefits 1/ - Early-Action Structural Measures for Early-Action Watershed Projects Recommended for Authorization, Red River Basin Study Area

Watershed Projects	Flood Prevention	Agricultural Water Management	Non-Agricultural Water Management	Secondary	Total
	thousand dollars				
3-25 Lower Bois d'Arc Creek and 3-25a Upper Bois d'Arc Creek	463.7	0	90.5	0	554.3
3-35 McKinney-Buzzard	40.6	9.4	16.4	6.2	72.6
3-40 Norwood Creek	58.6	31.8	0	8.6	99.0
3h2-4 Middle Muddy Boggy Creek and 3h2-6 Upper Muddy Boggy Creek	318.9	0	65.2	0	384.1
3-47 Ash Slough	10.8	9.9	0	3.9	24.6
3-48 Barkman Creek	51.1	47.0	0	19.4	117.5
3-52 Upper McKinney Bayou	178.6	130.8	61.8	37.1	408.3
3-53 Bonnard Bluff	215.7	192.7	0	40.8	449.2
3-54 McKinney Bayou	104.5	75.2	0	18.0	197.7
3k-11 Deport Creek	5.8	0	42.9	4.8	53.5
3-57 Pecan Bayou	234.0	141.8	56.0	39.0	450.8
3m1-7 Big Creek	79.1	0	209.9	48.2	337.2
3n-2 Johnson Chute	90.5	27.8	37.0	42.1	197.4
3-69 Bayou DuCrappe	74.5	40.1	0	26.9	141.5
3-70 Bayou Rigolette	335.3	73.5	39.0	70.3	518.1
3-75 Jonesville to Larto Lake	204.8	204.7	0	39.0	448.5
Total	2,466.5	984.7	598.7	404.3	4,454.2

1/ Adjusted normalized prices, Water Resources Council, April 1966.

The annual equivalent of installation costs were amortized using an interest rate of 5 1/8 percent; channels were amortized for 50 years and structures for 100 years. The total annual costs consist of the amortized installation costs plus costs of operation and maintenance. The annual costs, totaling $2,359,500, and the annual benefits totaling $4,454,200 for watershed projects, are summarized in Table 8.

e 8 - Annual Cost and Benefit-Cost Comparison - Early Action Multiple Purpose
ershed Projects Recommended for Authorization, Red River Basin Study Area

Watershed Projects	Amortized Installation Cost 1/	Operation & Maintenance Cost	Total	Annual Benefits	Benefit Cost-Ratio
	thousand dollars				
Lower Bois d'Arc Creek & Upper Bois d'Arc Creek	411.3	94.3	505.6	554.2	1.1:1
McKinney-Buzzard	35.4	12.7	48.1	72.6	1.5:1
Norwood Creek	32.1	7.9	40.0	99.0	2.5:1
Middle Muddy Boggy Creek & Upper Muddy Boggy Creek	337.2	22.5	359.7	384.1	1.1:1
Ash Slough	3.5	1.8	5.3	24.6	4.6:1
Barkman Creek	22.7	11.8	34.5	117.5	3.4:1
Upper McKinney Bayou	94.5	49.6	144.1	408.3	2.8:1
Buzzard Bluff	55.8	28.6	84.4	449.2	5.3:1
McKinney Bayou	19.0	14.3	33.3	197.7	5.9:1
Deport Creek	15.7	9.5	25.2	53.5	2.1:1
Posten Bayou	71.7	42.9	114.6	450.8	3.9:1
Big Creek	239.5	55.6	295.1	337.2	1.1:1
Johnson Chute	149.1	21.0	170.1	197.4	1.2:1
Bayou DuGrappe	11.9	10.6	22.5	141.5	6.3:1
Bayou Rigolette	358.3	77.3	435.6	518.1	1.2:1
Jonesville to Larto Lake	28.8	12.6	41.4	448.5	10.8:1
TOTAL	1,886.5	473.0	2,359.5	4,454.2	1.9:1

ortized channels for 50 years and structures for 100 years at 5 1/8 percent
nterest.

5 3/8

Synopsis of Individual Watersheds

3-25 and 3-25a, Lower Bois d'Arc Creek and Upper Bois d'Arc Creek, Texas

These projects, encompassing about 431 square miles in Fannin, Grayson, and Lamar Counties, represent a joint planning effort by the Department of Agriculture and the Corps of Engineers. The plan includes land treatment, Public Law 566 reservoirs and channel improvement in conjunction with the Corps planned Bonham Reservoir.

Problems in the watersheds stem mainly from overflow along Bois d'Arc Creek. Erosion in the uplands is moderate. Additionally, there are needs for water supplies and recreational areas.

Based on latest census available, 1960, the median family annual income was $2,772 with 53.4 percent of the families having incomes under $3,000. The per capita income was about $764; the national average per capita income was $2,215.

The watershed projects would provide land treatment on about 46,000 acres in Upper Bois d'Arc Watershed and about 49,000 acres in Lower Bois d'Arc Watershed. The plan provides for both watersheds, 22 reservoirs and 30.3 miles of channel improvement. It provides about 65,500 acre-feet of detention storage, 1,580 acre-feet of recreational storage, and 10,400 acre-feet of water supply storage. Total structural installation costs are estimated to be $7,581,400 of which $5,889,400 will be borne by federal funds and $1,692,000 by non-federal funds.

The average annual costs of structural measures are $505,600. The average annual benefits from structural measures are $554,200;

thus, a benefit-cost ratio of 1.1:1.0. Benefits are divided $329,400 for flood prevention, $134,300 for changed land use, $19,400 for water supply, and $71,100 for recreational facilities.

The project will reduce flood damages, increase farm incomes, provide recreational opportunities for area, and improve the living conditions of the people in the watershed.

3-35, McKinney-Buzzard, Oklahoma

The watershed has a drainage area of about 26 square miles and includes the drainage area of McKinney Slough and Buzzard Creek in McCurtain County. Millerton is the only community in the watershed.

The watershed area is intensively farmed, mainly by low income family farmers. Flooding is a major problem on about 3,100 acres, and about 4,100 acres of agricultural land need improved drainage. There is a need for increased recreational opportunities in the area.

The watershed is in an area that was designated eligible for assistance under the Public Works and Economic Development Act of 1965. Based on 1960 census data, median family income in the area was $2,455 with 60.3 percent of the families having incomes under $3,000. Per capita income was about $615, or 72 percent below the national average of $2,219. In 1964, about 11 percent of the population received public welfare assistance.

The plan provides for land treatment on about 8,200 acres, one multiple-purpose flood prevention and recreation structure, and about 8 miles of channel improvement. Storage in the multiple-purpose structure

will provide about 4,900 acre-feet of detention storage and 400 acre-feet of recreational storage. Total structural installation costs are estimated to be $682,300 of which $513,500 will be borne by federal funds and $168,800 will be borne by non-federal funds.

The average annual cost of structural works of improvement is $48,100. The average annual benefits are estimated to be $72,600. These benefits include secondary benefits of $6,200, recreation benefits of $16,400, drainage benefits of $9,400, and flood prevention benefits of $40,600. The resultant benefit-cost ratio is 1.5:1.0.

The project will reduce flood damages, alleviate drainage problems, and help satisfy water-based recreational needs. The project will provide increased economic opportunities for low income families.

3-40, Norwood Creek, Oklahoma

The watershed has a drainage area of about 86.4 square miles and is located in McCurtain County. It includes the drainage area of Norwood Creek and its major tributary, Push Creek. The watershed outlets into the Red River and lies mostly in the Southern Coastal Plain LRA. Haworth is the largest community in the watershed.

Flooding and inadequate drainage are problems on about 10,200 acres. Resultant damages stem from reduced crop yields and inefficient farming operations.

The watershed is in an area that was designated eligible for assistance under the Public Works and Economic Development Act of 1965. Based on 1960 census data, median family income in the area was $2,455

with 60.3 percent of the families having incomes under $3,000. Per capita income was about $615 or 72 percent below the national average. In 1964, about 11 percent of the population received public welfare assistance.

The plan provides for land treatment on about 19,000 acres, three floodwater retarding structures, and about 21 miles of channel improvement. Detention storage in the structures amounts to about 8,600 acre-feet. Total structural installation costs are estimated to be $609,200 of which $502,800 will be borne by federal funds and $106,400 by non-federal funds.

The average annual cost of structural works of improvement is $40,000. The average annual benefits are estimated to be $99,000. These benefits include secondary benefits of $8,600, drainage benefits of $31,800, and flood prevention benefits of $58,600. The resultant benefit-cost ratio is 2.5:1.0.

The project will reduce flood damages and alleviate drainage problems. More efficient farming operations and a higher standard of living will be stimulated by the project.

3h2-4 and 3h2-6, Middle Muddy Boggy Creek and Upper Muddy Boggy Creek, Oklahoma

These projects, with a drainage area of about 548 square miles, represent a joint planning effort by the USDA and the U. S. Army Engineers. The projects include parts of Atoka, Coal, Hughes, Pittsburg, and Pontotoc Counties. The plan includes land treatment and PL-566 reservoirs in conjunction with the USAE Parker Reservoir.

Flooding is a major problem on about 29,000 acres. Inadequate drainage is a problem on about 27,000 acres. The communities of Atoka, population 2,900, and Allen, population 1,000, need municipal water supplies. There is a need for water-based recreational facilities.

Parts of the areas in the watersheds have been designated eligible for assistance under the Public Works and Economic Development Act of 1965. Based on 1960 census data, median family income in the area was about $2,350 with over 60 percent of the families having incomes under $3,000. The unemployment rate was about 7.2 percent. In 1964, about 15.4 percent of the population received some type of public welfare assistance.

The watershed project plan provides for land treatment on about 121,000 acres, 16 reservoirs above Parker Reservoir, and 53 reservoirs below Parker Reservoir. The 69 reservoirs provide 99,800 acre-feet of floodwater storage, 16,650 acre-feet of sediment storage, 4,000 acre-feet of municipal water storage, and 1,000 acre-feet of recreational water storage. Total structural installation costs are estimated to be $6,435,600, of which $5,329,800 will be borne by federal funds and $1,105,800 by non-federal funds.

The average annual cost of structural works of improvement is $359,700. The average annual benefits are estimated to be $384,100. These benefits include recreational benefits of $51,600, municipal water supply benefits of $13,600, and flood prevention benefits of $318,900. The resultant benefit-cost ratio is 1.5:1.0.

The project will improve the overall economic climate of the area and provide a greater sense of security and diminished hazard to life.

Drainage problems will be alleviated by land treatment and group drainage projects.

3-47 and 3-48, Ash Slough and Barkman Creek, Texas

These watersheds encompass about 73 square miles in Bowie County. Barkman Creek is the principal stream and Ash Slough is a tributary along with McKinney Bayou, Jones Creek, and Panther Creek. About 11 square miles of the area are federal lands in the Red River Arsenal and Lane Star Ordinance Plant. Hooks, with a population of about 2,050, is the largest community in the watersheds.

Problems from flooding and inadequate drainage occur on about 8,200 acres of agricultural land in the watersheds. Roads and bridges are subject to frequent floodwater damage. Based on 1960 census data, median family income in the area was about $4,082 with about 36.6 percent of the families having incomes under $3,000. Per capita income was about $1,080, or 51 percent below the national average.

The plan provides for land treatment on about 13,000 acres and about 28 miles of channel improvement. Total structural installation costs are estimated to be $467,100 of which $266,400 will be borne by federal funds and $200,700 by non-federal funds.

Average annual costs of structural works of improvement are $39,800. The average annual benefits are estimated to be $142,100. These benefits include secondary benefits of $23,300, drainage benefits of $56,900, and flood prevention benefits of $61,900. The resultant benefit-cost ratio is 3.6:1.0.

The plan will reduce floodwater damage 83 percent, provide outlets for drainage improvements, and allow for better management of agricultural lands. Farm incomes will be improved and better living conditions will be brought about by installation of the project.

3-52, 3-53, and 3-54, Upper McKinney Bayou, Buzzard Bluff, and McKinney Bayou, Arkansas and Texas

These projects interrelated with U. S. Army Engineers projects and they were planned jointly by the U. S. Department of Agriculture and the U. S. Army Engineers. Project design data was coordinated in the planning stage. The Corps' projects will provide two new outlets into Red River and enlargement of McKinney Bayou from its mouth at Red River to the Arkansas-Texas state line. Installation of the Corps works is a prerequisite to channel improvement planned by USDA.

These watersheds encompass a drainage area of about 384 square miles; 354 in Arkansas and 30 in Texas. McKinney Bayou, the principal stream, was once a segmented channel of Red River. It was severed from Red River on the upper end in Texas by the main levee bordering Red River. Some channel and levee work in the area have been completed by the Corps in cooperation with the local drainage improvement districts.

Flooding and inadequate drainage are problems on about 77,000 acres. Recreational facilities are needed to satisfy demands for family type recreational activities. Based on 1960 census data, median family income in the area was about $3,372, with 44.6 percent of the families having incomes under $3,000. Per capita income was about $856 or 61 percent below the national average.

The watershed projects provide for land treatment on about 68,000 acres, three floodwater retarding structures one multiple-purpose flood prevention and recreational structure, and about 182 miles of channel improvement. Storage in the reservoirs provides about 15,000 acre-feet for flood prevention and about 1,400 acre-feet for recreational purposes. Total structural installation costs are estimated to be $3,096,400, of which $2,031,200 will be borne by federal funds and $1,065,200 by non-federal funds.

The average annual cost of structural works of improvement is $261,800. The average annual benefits are estimated to be $1,055,200. These benefits include secondary benefits of $95,900, recreational benefits of $61,800, drainage benefits of $398,700, and flood prevention benefits of $498,800. The resultant benefit-cost ratio is 4.0:1.0.

The projects will reduce flood damages about 87 percent and provide improved drainage in the watershed. Recreational opportunities for residents of the watershed and surrounding area will be provided by the projects.

3k-11, Deport Creek, Texas

This watershed, with a drainage area of about 6 square miles, is located in Red River and Lamar Counties, and encompasses the west prong of Mustang Creek in the immediate vicinity of Deport. It lies entirely in the Texas Blackland Prairie Land Resource Area.

The major flood damage occurs in the urban area of Deport. Deport, with a population of about 700, has needs for recreational facilities.

Although the town started receiving municipal water from the Pat Mayse Reservoir in 1970, interest in developing a local supply still exists because a prime location is available.

Parts of the watershed area have been designated eligible for assistance under the Public Works and Economic Development Act of 1965. Based on 1960 census data, median family income in the area was about $2,730, with about 54 percent of the families having incomes under $3,000. In 1964, about 12 percent of the population received some type of public welfare assistance.

The plan provides land treatment for about 1,500 acres and one multiple-purpose reservoir. The reservoir would provide urban flood protection and municipal water for Deport, and recreational opportunities for the area. Total structural installation costs are estimated to be $298,100, of which $166,700 will be borne by federal funds and $131,400 by non-federal funds.

The average annual cost of structural measures is $25,200. The average annual benefits are estimated to be $53,500. These benefits include secondary benefits of $4,800, recreation benefits of $37,900, municipal water supply benefits of $5,000, and flood prevention benefits of $5,800. The resultant benefit-cost ratio is 2.1:1.0.

The project will reduce flood damages and improve the quality of environment for people living and working in the floodplain. Water-based recreational opportunities will be provided for the residents of the watershed and surrounding area.

3-57, Posten Bayou, Arkansas

This project is interrelated with a project proposed by the U. S. Army Engineers. Project design data was coordinated during planning. The Corps' project will provide a diversion channel and drainage structure through the Red River levee. This work will function as an outlet for the channel improvement planned by USDA.

The watershed, about 98 square miles, is located in Lafayette County, Arkansas, and Bossier Parish, Louisiana. About 96 square miles are in Arkansas and about 2 square miles are in Louisiana. There are several small communities in the watershed. Bradley, Arkansas, population about 700, is the nearest town. The watershed is in an area designated eligible for assistance under the Public Works and Economic Development Act of 1965. According to 1960 census data, median family income in the area was $2,245, with 60.5 percent of the families having incomes under $3,000. The unemployment rate in 1960 was 8 percent.

The watershed project provides for land treatment on about 18,600 acres, one reservoir for recreational purposes, and about 39 miles of channel improvement. The reservoir would have a storage capacity of about 600 acre-feet and a surface area of 120 acres. Total structural installation costs are estimated to be $1,338,200, of which $836,700 will be borne by federal funds and $501,500 by non-federal funds.

The average annual costs of structural works of improvement are $114,600. The average annual benefits are estimated to be $450,800. These benefits include secondary benefits of $39,000, recreational

benefits of $36,000, drainage benefits of $141,800, and flood prevention benefits of $234,000. The resultant benefit-cost ratio is 3.9:1.0.

The project will reduce flood damages and provide improved drainage in the watershed. Readily accessible recreational opportunities will be provided for residents of the watershed and surrounding area.

3ml-7, Big Creek, Arkansas

This project, comprising an area of about 140 square miles, is located in Columbia and Nevada Counties. Big Creek, the principal stream, originates in Nevada County and flows south-southwest for about 23 miles to its confluence with Bayou Dorcheat. Magnolia, population about 11,000; Waldo, population about 2,000; and McNeil, population about 1,000; are towns within the watershed.

Principal problems stem from flooding, both agricultural and urban; and needs for water supplies - municipal, industrial, recreational, and quality control. Flooding occurs on about 9,900 acres of floodplain along Big Creek and several tributaries. Nations Creek, a tributary of Big Creek, causes urban damage in the east and southeast part of Magnolia. The Federal Water Pollution Control Administration (now the Environmental Protection Agency) determined that dilution flows in Big Creek below Magnolia are needed to improve water quality. Water-based recreational facilities are needed to help satisfy local demands.

Based on 1960 census data, median family income in the area was $3,438 with 45.1 percent of the families having incomes under $3,000. Per capita income was about $891 or about 60 percent below the national average. The unemployment rate was about 6.5 percent in 1960.

The plan provides for land treatment on about 9,500 acres; seven flood prevention reservoirs; one multiple-purpose flood prevention, recreational, and water quality reservoir; public recreational facilities; and about 22 miles of channel improvement. The nine reservoirs will provide about 25,000 acre-feet of flood detention storage, 20,000 acre-feet of municipal and industrial storage, 6,000 acre-feet of water quality control storage, and 800 acre-feet of recreational storage. Total structural installation costs are estimated to be $4,608,700, of which $2,090,500 will be borne by federal funds and $2,518,200 by non-federal funds.

Average annual costs for structural works of improvement are $295,100. The average annual benefits are estimated to be $337,200. These benefits include secondary benefits of $48,200, water quality control benefits of $26,200, recreational benefits of $82,100, municipal water supply benefits of $101,600, and flood prevention benefits of $79,100. The resultant benefit-cost ratio is 1.1:1.0.

The project will reduce floodwater damages by about 80 percent, provide an estimated 54,700 visitor-days of recreational use annually, improve water quality in Big Creek below Magnolia, and provide a water supply for Magnolia, Arkansas. The project will increase incomes and provide additional employment opportunities in the area.

3n-2, Johnson Chute, Louisiana

This watershed, about 92,000 acres, is located in DeSoto, Natchitoches and Sabine Parishes. It is divided into two almost equal drainage areas.

Tapalcat Bayou drains the northern half and Little River drains the southern half of the area. The flows of Tapalcat Bayou and Little River join to form Johnson Chute just above the watershed outlet. Marthaville and Allen are the only communities in a predominantly rural area. The watershed has a population of about 1,300.

Floodwater damage is a major problem on about 13,000 acres. Irrigational water storage is needed for about 3,100 acres suitable for project-type development. Additionally, water-based recreational facilities are needed.

The watershed is in an area designated eligible for assistance under the Public Works and Economic Development Act of 1965. According to 1960 census data, median family annual income in the area was $2,382 with 60.1 percent of the families having incomes under $3,000. According to 1967 data, per capita income was about $1,486 or 53 percent below the national average of $3,159. The unemployment rate was about 9.2 percent in 1960.

The plan provides for land treatment on 35,000 acres, a system of 9 reservoirs, and 12 miles of canals for distribution of irrigational water. It provides about 27,450 acre-feet of flood detention storage, 7,500 acre-feet of recreational storage, and 5,100 acre-feet of irrigational storage. Total structural installation costs are estimated to be $2,888,500, of which $2,214,200 will be borne by federal funds and $674,300 by non-federal funds.

The average annual costs of structural measures are $170,000; benefits are $197,400, thus a benefit-cost ratio of 1.2:1. Benefits

are divided $90,500 for flood prevention, $37,000 for recreational features, $27,800 for irrigational measures, and $42,100 from secondary souces.

The project will increase incomes, provide employment opportunities for unemployed and underemployed labor, and utilize other resources in the watershed area.

3-69 and 3-70, Bayou DuGrappe and Bayou Rigolette, Louisiana

These watersheds encompass an area of about 418 square miles in Grant and Winn Parishes. Bayou Rigolette, the principal stream, drains the entire area through floodgates into Red River. Bayou DuGrappe is a major tributary of Bayou Rigolette. Colfax, population 2,100, is the seat of Grant Parish and is the trade center for the two areas.

Problems from flooding and inadequate drainage occur on about 49,000 acres of agricultural land. Roads and bridges are subject to frequent floodwater damage. The urban area of Colfax is subject to flooding from frequent storms. A need exists in the area for diversified water-based recreational facilities.

Parts of the watershed area have been designated eligible for assistance under the Public Works and Economic Development Act of 1965. Based on 1960 census data, median family income in the area was about $2,700 with about 55.6 percent of the families having incomes under $3,000. The unemployment rate was about 7.9 percent in 1960. According to 1967 data, per capita income was about $1,725, or about 45 percent below the national average.

The plan provides for land treatment on about 109,000 acres, one multiple-purpose flood preventionand recreational structure, 10 flood

prevention structures, and about 81 miles of channel improvement. The 11 structures provide about 55,000 acre-feet of flood prevention storage and 3,200 acre-feet of recreational storage. Total structural installation costs are estimated to be $6,972,400, of which $5,631,200 will be borne by federal funds and $1,341,200 by non-federal funds.

The average annual cost of structural works of improvement is $458,100. The average annual benefits are estimated to be $659,600. These benefits include secondary benefits of $97,200, recreational benefits of $39,000, drainage benefits of $113,600, and flood prevention benefits of $409,800. The resultant benefit-cost ratio is 1.4:1.0.

The project will reduce flood damages and provide outlets for drainage improvements. The amount of sediment deposition in Lake Iatt will be significantly reduced. An estimated 26,000 visitor days of recreation will be provided by the project along with additional job opportunities.

3-75, Jonesville to Larto Lake, Louisiana

This watershed, with a drainage area of 173 square miles, is located primarily in Catahoula Parish with a small portion in LaSalle Parish. It lies entirely in the Southern Mississippi Valley Alluvium Land Resource Area.

The major problem stems from flooding and inadequate drainage on about 109,000 acres of prime agricultural land. The watershed is sparsely populated and the residents depend almost entirely on agriculture for their income.

The watershed is in an area designated eligible for assistance under the Public Works and Economic Development Act of 1965. Based on 1960 census data, median family income in the area was about $2,100, with about 62.8 percent of the families having incomes under $3,000. In 1964, about 13.5 percent of the population received some type of public welfare assistance. According to 1967 data, per capita income was about $1,290, or about 59 percent below the national average.

The plan provides for land treatment on about 28,500 acres and about 70 miles of channel improvement. Total structural installation costs are estimated to be $515,000, of which $365,800 will be borne by federal funds and $149,200 by non-federal funds.

The average annual cost of structural works of improvement is $41,400. The average annual benefits are estimated to be $448,500. These benefits include secondary benefits of $39,000, drainage benefits of $204,700, and flood prevention benefits of $204,800. The resultant benefit-cost ratio is 10.8:1.0.

The project will reduce floodwater damage, provide outlets for drainage improvements, and allow better management of agricultural lands. Incomes will be increased, employment opportunities for unemployed and underemployed labor will be provided, and other resources in the watershed area will be more fully utilized.

RECOMMENDATIONS

It is recommended that authorization be granted to carry out the proposed program in the Red River Basin below Denison Dam with the installation of all elements of the program being initiated prior to 1980;

That in carrying out such program, the Secretary of Agriculture be authorized to assist local organizations, upon their request, to prepare and carry out subwatershed work plans for these watersheds; provided that the application for assistance has been submitted to, and not disapproved within 45 days by, the state agency having supervisory responsibility over programs provided for in the Watershed Protection and Flood Prevention Act, as amended, or by the Governor if there is no state agency having such responsibility;

That in carrying out such program, the Secretary of Agriculture be authorized to provide financing and other assistance in the installation of structural works of improvement for flood prevention and for furthering the conservation, development, utilization, and disposal of water and that such assistance shall be provided on a basis comparable to that authorized for similar purposes under other federal programs, with such modifications as the Secretary deems necessary and appropriate in the public interest;

That the Secretary of Agriculture be authorized to provide financial and other assistance for accelerating the installation of land treatment measures for runoff and waterflow retardation and the control and prevention of erosion, flood water, and sediment damages, and, in cooperation with farmers and ranchers, and other landowners, operators,

and occupiers, the installation of soil and water conservation practices and measures, including changes in cropping systems and land uses, needed to conserve and develop the soil, water, woodland, wildlife, and recreation resources of farm and other lands within the area included in subwatershed plans and as provided in such subwatershed plans; and that such assistance should be comparable to the assistance provided for planning and installing similar practices and measures under PL-38-566, as amended or as may hereafter be amended, and other existing national programs, provided that the portion of the costs of such practices and measures needed to protect structural works of improvement installed with federal assistance should be that part determined by the Secretary to be necessary and appropriate to effectuate the timely installation of such practices and measures;

That prior to participation in the installation of the structural works of improvement on non-federal lands, cooperating non-federal entities shall furnish assurances satisfactory to the Secretary of Agriculture that an adequate land treatment program is being installed to provide necessary protection to the watershed lands and planned structural measures; that such entities will acquire all land rights needed in connection with the installation of such works of improvement and in such acquisition there may be used such federal cost-sharing assistance as may be available under other federal programs; and that such entities will operate and maintain all upstream structural works of improvement on non-federal lands, after installation, in accordance

with the provisions for non-federal participation described herein or as may be required under other similar federal programs.

The first estimate of cost for the proposed Department of Agriculture program is $50,397,300, of which $27,667,600 will be provided by the Federal Government and $22,729,700 will be provided by non-federal interests.

The first estimate of cost for land treatment is $14,904,400, of which $1,829,400 will be provided by the Federal Government and $13,075,000 will be provided by non-federal interests. The federal share of this includes $835,300 which will be available under the going programs and $994,100 for the acceleration of this program.

The first estimate of cost for the installation of the structural works of improvement is $35,492,900, of which $25,838,200 will be assumed by the Federal Government and $9,654,700 will be assumed by non-federal interests.

LETTERS OF SUPPORT

UNITED STATES DEPARTMENT OF AGRICULTURE

SOIL CONSERVATION SERVICE -5a-

[redacted] Little Rock, Arkansas 72201

RB - USDA Implementation Plan for the Red River Below Denison Dam DATE: February 16, 1971

J. B. Earle, State Conservationist
SCS, Alexandria, Louisiana

This is in reference to the proposed U. S. Department of Agriculture Implementation Plan for the Red River Basin Below Denison Dam.

This proposed plan includes 18 projects recommended for installation by 1980. Five of these are located in Arkansas. These are the: Upper McKinney Bayou, Buzzard Bluff, McKinney Bayou, Posten Bayou, and Big Creek Watersheds.

It is our opinion that these projects are needed and can be carried out within the period of time designated for early-action projects.

Attached is a letter from Mr. S. Keith Jackson, Executive Director of the Arkansas Soil and Water Conservation Commission. This Commission participated in the basin study and in the review of the study report. Mr. Jackson's letter also recommends the implementation of plans for the five Arkansas projects.

Einar L. Roget
State Conservationist

1 Attachment

...land SOIL AND WATER CONSERVATION COMMISSION

TELEPHONE 501 371-1611 ☐ STATE CAPITOL ☐ LITTLE ROCK, ARKANSAS 72201

February 5, 1971

Mr. Einar Roget, State Conservationist
Soil Conservation Service
5401 Federal Office Building
Little Rock, Arkansas 72201

Dear Mr. Roget:

Reference is made to the proposed "USDA Implementation Plan, dated November 1970, for the Red River below Denison Dam."

This report requests authorization to develop 18 watershed work plans through congressional committee action. Five of the projects included in the above report are located in Arkansas as follows: Upper McKinney Bayou; Buzzard Bluff; McKinney Bayou; Posten Bayou; and Big Creek. All of these projects were recommended for early installation by Governor Rockefeller's letter of May 5, 1970, addressed to W. Don Maughan, Executive Director, Water Resources Council.

Local interests in all of the above mentioned projects are favorable to their implementation and we recommend that every effort be made to advance them towards actual operations.

Sincerely,

S. Keith Jackson
Executive Director

SKJ:dp

BATON ROUGE, LA. 70804

January 12, 1971

H. DOWNS
DIRECTOR

Mr. J. B. Earle, Chairman
Field Advisory Committee
U. S. Department of Agriculture
P. O. Box 1630
Alexandria, Louisiana 71301

Dear Mr. Earle:

We have reviewed the draft copy of the USDA Implementation Plan, Red River Basin Below Denison Dam. In this report, you are requesting authorization to develop 18 watershed work plans on areas included in the early-action plan recommended in the Comprehensive Red River Basin Study. Of the 18 areas, five are in Texas, four are in Oklahoma, five are in Arkansas and four are in Louisiana. Those in Louisiana include Johnson Chute in Natchitoches Parish, Bayou DuGrappe in Grant Parish, Bayou Rigolette in Grant and Rapides Parishes and Jonesville to Larto Lake in Catahoula Parish.

The State Department of Public Works has been designated by Governor McKeithen as his representative in the review and coordination of water resources studies and projects affecting Louisiana. Since all of the projects in Louisiana are badly needed, we will work with the local sponsors in meeting the local requirements for carrying out the projects.

Sincerely yours,

C. H. DOWNS
DIRECTOR

/dh

LOUISIANA
STATE SOIL AND WATER CONSERVATION
COMMITTEE

January 13, 1971

LOUISIANA STATE UNIVERSITY
P. O. DRAWER CS
TELEPHONE 389-5648
BATON ROUGE, LOUISIANA 70803

Mr. J. B. Earle, Chairman
Field Advisory Committee
U. S. Department of Agriculture
Post Office Box 1630
Alexandria, Louisiana 71301

Dear Mr. Earle:

We have reviewed the draft copy of the USDA Implementation Plan, Red River Basin Below Denison Dam. This report requests planning authorization for 18 watershed project areas. Four of the areas are in Louisiana - Johnson Chute, Bayou DuGrappe, Bayou Rigolette, and Jonesville to Larto Lake.

At the regular monthly meeting held in Baton Rouge, February 20, 1968, the proposed early-action plan for the Comprehensive Red River Basin Study was reviewed. At that time, the State Committee requested that authorization be sought for the above mentioned projects in Louisiana. We still support this request and will work with the Louisiana Department of Public Works and local sponsors in providing local requirements for carrying the projects to completion.

Sincerely yours,

Richard S. Thompson
Chairman

RST:p

cc: Louisiana Department of Public Works

RB - Red River Below Denison Dam DATE: January 28, 1971

J. B. Earle, State Conservationist
Soil Conservation Service
P. O. Box 1630
Alexandria, Louisiana 71301

We have reviewed the "USDA Implementation Plan", Red River Basin Below Denison Dam. It is our understanding that this report will be used to request authorization for implementation of 18 early-action watershed projects included in the comprehensive basin report.

The four watersheds which are in Oklahoma include McKinney-Buzzard, Norwood, Upper Muddy Boggy and Middle Muddy Boggy. These watersheds have active sponsorship, and there is an urgent need for development of these projects to reduce the frequent flooding and associated drainage problems. The annual income per farm for these watersheds is relatively low, and installation of these projects would have a significant effect on the agricultural economy of the area.

It is my opinion that these projects, if authorized as part of this implementation plan, can be carried out by the local sponsors in an orderly manner.

Wm. L. Vaught
State Conservationist

cc:
J. W. Haas, Director, River Basins Division, SCS, Washington, D. C.
J. P. Kuykendall, Director, SRTSC, SCS, Fort Worth, Texas

OKLAHOMA STATE SOIL CONSERVATION BOARD

114 State Capitol Bldg.
PHONE JA 1-2384
OKLAHOMA CITY, OKLAHOMA 73105

February 2, 1971

Mr. J. B. Earle
State Conservationist
Soil Conservation Service
P. O. Box 1630
Alexandria, Louisiana 71301

Dear Mr. Earle:

The Oklahoma State Soil Conservation Board, at it regular meeting on February 1, 1971, reviewed the "USDA Implementation Plan", Red River Basin below Denison Dam. The Board recommended that this plan be presented to the Congress in order that appropriate legislation be passed which would provide for the concurrent authorization for the 18 early-action watershed projects listed in the proposed plan.

The four watersheds which are located in Oklahoma, McKinney-Buzzard, Norwood, Upper Muddy Boggy and Middle Muddy Boggy, have made applications to the State Soil Conservation Board for assistance in developing upstream watershed projects, and have demonstrated their interest and ability to carry out these projects if this implementation plan is authorized.

These projects, when installed, will improve the economic conditions of the area, as well as improve the environment.

Sincerely,

Leonard A. Solomon

LEONARD A. SOLOMON
Executive Director

LAS:rg

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE P. O. Box 648, Temple, Texas 76501

RB - Red River Below Denison Dam

DATE: January 13, 1971

J. B. Earle
State Conservationist
SCS
Alexandria, Louisiana 71301

The "USDA Implementation Plan", Red River Below Denison Dam, includes six projects for the protection, improvement, and development of upstream watershed lands in Texas. The measures included in these projects are needed, desirable, and feasible. The projects are key elements in the early action phase of a comprehensive plan that has been developed for the basin through interstate and interagency cooperation and coordination. It is our opinion that these projects must be carried out and completed in proper sequence with major elements to be installed by other agencies in order that the full benefits and protection of the basin's land and water resources can be realized.

It is our opinion that local interests are ready, willing, and able to proceed on these projects with Federal assistance. Existing State laws provide authority for local units of government who will sponsor these projects to organize and raise finances to assume their responsibilities for local participation.

Therefore, it is my recommendation that new legislation be enacted to authorize the Secretary of Agriculture to assist State and local organizations in carrying out projects included in the "USDA Implementation Plan", Red River Below Denison Dam.

Clyde W. Graham
State Conservationist

cc:
Eugene C. Buie, SCS, Washington, D. C.
J. P. Kuykendall, SCS, Fort Worth, Texas

TEXAS STATE SOIL AND WATER CONSERVATION BOARD
1018 First National Building
Temple, Texas 76501
AREA CODE 817, 773-2250

February 1, 1971

Mr. Clyde W. Graham, State Conservationist
Soil Conservation Service
P. O. Box 648
Temple, Texas 76501

Subject: Reference to the USDA Implementation Plan Report, Red River Basin Below Denison Dam

Dear Clyde:

We herewith concur in the proposed USDA Implementation Plan Report, Red River Basin Below Denison Dam, contingent upon wording being included as agreed upon at the NACD meeting in Shreveport, Louisiana, November 14, 1969.

Sincerely yours,

Harvey Davis

Harvey Davis
Executive Director

HD:jc